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**Lesson Title:** Soil

**Grade:** 3

**Duration**: Lesson I of a 3-lesson unit

**Learning Target**: I can examine a soil sample

I can write descriptively about soil

I can compare and contrast my soil sample to my partner’s sample.

I can speak in complete sentences to provide details and clarity

**Essential Question**: Why is soil important?

**Common Core Learning Standards:** RI31, RI37, W32, W34, SL31, SL36

**Danielson’s Framework for Teaching:** 1a, 1b, 1e, 2a, 2b, 2c, 3a, 3b, 3c, 3d, 3e

**Vocabulary:** humus, top soil, subsoil, bedrock, decompose

**Pivotal Questions:**

1. What is soil?

2. What are the various kinds of soil?

**Materials:** 1. Students’ KWL charts

2. Plastic magnifying lenses for each partner group

3. Soil

4. Paper cups

5. Labels

6. Anchor chart “Soil Vocabulary”

7. Video, Brain Pop, Jr: “Soil” <https://jr.brainpop.com/science/land/soil/> (membership or get 30 day free trial)

8. Brain Pop worksheet: What is Each Layer of Soil Like?

9. Read aloud, Dirt: The Scoop on Soil by Natalie M. Resinsky

**Hook/Motivation**: “Today, we begin our unit on soil, worms and composting. Later in the unit, we’ll create our own classroom worm farm. We’ll use an aquarium clear container, add soil and worms. You’ll be able to observe how helpful worms are because they mix all the parts of the soil and their tunnels allow air and water to reach the soil as well. But before we get to that part of the unit, we must first learn about soil. You may not think so but soil is very much alive.”

**Students Turn and Talk**: “Turn and discuss with your partner what you know about soil and what you want to know about soil.”

**Distribute:** KWL chart is distributed.

**Direct Instruction**: “Our friends Annie and Moby from Brain Pop, Jr. have supplied a KWL chart for us to write what we know and what we wish to know about soil.” (Give students reasonable time to complete).

“It takes a long time to make soil: 300 years. Soils begins as hard rock. Weathering breaks down the rock into particles of soil. How does having soil benefit us? What is in soil? For our read aloud, we have the book, Dirt: The Scoop on Soil by Natalie M. Resinsky. Following the reading and brief discussion, we’ll find out more when we visit our friends at Brain Pop, Annie and Moby.”

**Video:** Brain Pop, Jr video, “Soil” <https://jr.brainpop.com/science/land/soil/> (need membership or sign up for 30-day free trial)

**Post** anchor charts with vocabulary words mentioned in video. With class, elaborate on word meanings.

Humus ~ Thick, black fertile soil on top

Top soil ~ On the surface, really thick and dark because of humus

Subsoil ~ Below topsoil and lighter with little humus

Bedrock ~ Hard rock below

Decompose ~ Life that dies and breaks down into humus

“I collected soils from my home, the school area, a garden, the beach and a park. I have brought in these different kinds of soil for you to see. Each student has a paper cup containing some soil. Use the magnifying lenses to help you see what is in each kind of soil. Record what you see. You each have labels on which you will circle the words that describe each type of soil. Which soil has the most rocks? Which soil has the most bits of dead plants and animals? Which soil is darkest, and which keeps its shape longest when you stick your thumb in it? Once you’re done, tape the labels on the cups. Then, with your partner, compare and contrast your soil with your partner’s soil using the Venn diagrams stationed at your team tables.”

Students, volunteers and selected, share-out descriptions and comparisons of their soil cups.

**Game:** Whole class engages in an interactive puzzle on Smartboard, Which Animals Eat Their Way Through the Soil.

**Independent Student Activity:**

**On-level** students will use Brain Pop, Jr prepared writing paper: What is Each Layer of Soil Like? Write Describing Words in the Chart. Once completed, on unruled paper titled, What Does Soil Look Like Underground? Draw a Picture of What You Might Find in the Soil, students create an art image using pencils and crayons. Teacher circulates to monitor students.

**Below-level** students are directly guided and placed in academic-specific groups. They have been assisted with the task of describing soil in their cups and properly labeling. On the loose-leaf paper provided at your group tables, below-level students select one of the vocabulary words on soil and write two sentences about the selected word. When finished, on unruled paper titled, What Does Soil Look Like Underground? Draw a Picture of What You Might Find in the Soil, students create a drawing using pencils and crayons. Teacher assists struggling students.

**Whole Class Share-out:** Volunteer and selected students read their work and take questions from classmates.

**Summary:** Ask students to summarize lesson. Support student’s efforts to explain with well-placed questions.

**Assessment:** Students complete their KWL chart to write what they have now learned about soil. Guide below-level students completing their KWL chart. Check whole class for understanding.

**Follow-up Lesson: Lesson:** Worms are Wonderful!

Writing Rubric forSoil

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **4** | **3** | **2** | **1** |
| **Explains four types of soil** | All of writing explains four types of soil | Most of writing explains four types of soil | Some of writing explains four types of soil | None of writing explains four types of soil |
| **Writing uses describing words to discuss soil** | All writing uses describing words to discuss soil | Most of writing uses describing words to discuss soil | Some of writing uses describing words to discuss soil | None of writing uses describing words to discuss soil |
| **Drawing accompanying writing shows what is found in soil** | All of drawing accompanying writing shows what is found in soil | Most of drawing accompanying writing shows what is found in soil | Some of drawing accompanying writing shows what is found in soil | None of drawing accompanying writing shows what is found in soil |